

At the era of “humanitarian digitisation”, lifting the veil of newness

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Applications of digital information communication technologies (ICTs) are now commonplace across the disaster response cycle. But some gaps leave a critical and emerging set of risk factors largely unaddressed in a comprehensive way by the humanitarian sector. This article identifies specific steps towards improving humanitarian information activities (HIAs)¹-related knowledge generation and curation that the sector should consider.

The wide scale uptake of digital information communication technologies² (ICTs) over the past decade or so represents a distinct and critical juncture in the history of humanitarian practice that is arguably at least equal in impact to any other previous period of seismic transformation seen by the field. Some example of past moments of major changes in how humanitarianism is structured, conceived of, and conducted includes the post-Great Lakes Crisis and South Asian Tsunami eras of the 1990s and the early 2000s, respectively. From these pivot points came such significant developments as the introduction of the Sphere Standards and reform of the Cluster System³.

The humanitarian use of ICTs

Nearly every aspect of humanitarian assistance is now being affected and changed in some form by the attempt to apply ICTs across the disaster response cycle⁴. The current period, what could be referred to as the era of “Humanitarian Digitization”, is being defined by how the rapid adoption of ICTs by responders, affected populations, State and non-State armed actors, and private sector entities are changing how humanitarian assistance is delivered, as well as the political contexts and the operational environments in which it is occurring. ICTs in the humanitarian context can include, though are not limited to, mobile devices, remote sensing platforms such as satellites and drones, machine learning and artificial intelligence (AI), social

¹ Defined as: Activities and programs which may include the collection, storage, processing, analysis, further use, transmission, and public release of data and other forms of information by humanitarian actors and/or affected communities. HIAs also include the establishment and development of communications capacity and infrastructure by responders and/or populations. These activities occur as part of humanitarian action throughout the response cycle and include, but are not limited to, improving situational awareness; disaster preparedness and mitigation; intervention design and evaluation; connecting populations to response activities and to each other; and supporting ongoing operations, including the delivery of assistance; Faine Greenwood *et al.*, “The Signal Code: A Human Rights Approach to Information During Crisis,” Standards and Ethics (Cambridge: Harvard Humanitarian Initiative, 2017), 4, <http://hhi.harvard.edu/publications/signal-code-human-rights-approach-information-during-crisis>

² Organisation for Economic Co-operation and Development, *Measuring the Information Economy*, 2002, 81, www.oecd.org/sti/ieconomy/1835738.pdf

³ Margie Buchanan-Smith, “How the Sphere Project Came into Being: A Case Study of Policy Making in the Humanitarian-Aid Sector and the Relative Influence of Research”, Working Paper, *Overseas Development Institute, Humanitarian Policy Group*, June 2003, 11, www.odi.org/publications/146-how-sphere-project-came-being-case-study-policy-making-humanitarian-aid-sector-and-relative

⁴ For more on the Disaster Response Cycle, see Advanced Training on Humanitarian Action, “Disaster Management Cycle”, *Humanitarian Coordination Training* (SIDA Civil Society Center), www.atha.se/sites/default/files/Disaster_Management_Cycle%20v3_0.pdf

HUMANITARIAN ALTERNATIVES

media, and online mapping platforms and applications⁵. These activities are often occurring under the rubric of “humanitarian innovation”. Betts and Bloom discuss the humanitarian use of the term “innovation” in their 2014 OCHA Policy Paper:

“Humanitarians have used the term ‘innovation’ to refer to the role of technology, products and processes from other sectors, new forms of partnership, and the use of the ideas and coping capacities of crisis-affected people. However, as with many emerging ideas, use of the term in the humanitarian system has lacked conceptual clarity, leading to misuse, overuse, and the risk that it may become hollow rhetoric⁶.”

The oft-used and often poorly defined concept of humanitarian innovation has, at its core, a focus on the “new” – new partnerships, new technologies, new products, and new processes that may not themselves be truly “new” but are new in the sense of not having been traditionally utilized in the specific context of humanitarian assistance. The implicit conjoining together of these supposedly “new” technologies and applications with an apparent bias towards equally new structures and approaches for governing and managing them in practice is problematic. It has caused, according to the authors, a “veil of newness” to descend between current humanitarian use of ICTs and commonly accepted approaches, structures, and benchmarks present historically in other established sub-sectors of humanitarian action.

It is the implications of this veil of newness for the development of humanitarian knowledge creation, curation, sharing and management that this article focuses on and seeks to explore. The current status quo, this paper argues, which can be generally described as an ad hoc and decentralized approach, creates new moral and operational hazards for responders and affected communities alike, while magnifying and mutating pre-existing threats to vulnerable populations in often poorly understood ways:

“The proliferation of ICTs among affected populations and humanitarian actors alike exposes critical, unaddressed gaps in the legal and ethical frameworks that have traditionally defined and governed humanitarians’ professional conduct. These gaps are an open secret, as is the lack of professionalisation around data protection and ICT use. Increasingly, they are a disaster waiting to happen⁷.”

To prevent the ICT-driven “disaster waiting to happen,” this paper identifies four key areas in which gaps exist in humanitarian knowledge development related to the use of ICTs that should be urgently and comprehensively addressed by the sector.

In search of clusters: the embrace of ad hoc networks and “work-around” coordination

The first major gap in humanitarian knowledge creation and management specific to HIAs is the absence of designated lead clusters and/or other agreed coordination mechanisms for commonly occurring uses of ICTs and digital data. Without these structures, knowledge capture outside of individual agency efforts can be difficult to impossible to achieve. At present, there has been a tacit embrace of often ad hoc networks of practitioners that is, in part, the result of the rise of the

⁵ Nathaniel A. Raymond, Brittany L. Card, and Ziad Al-Achkar, “What Is ‘Humanitarian Communication?’ Towards Standard Definitions and Protections for the Humanitarian Use of ICTs”, *European Interagency Security Forum*, 2015, 1, www.eisf.eu/library/what-is-humanitarian-communication

⁶ Alexander Betts and Louise Bloom, “Humanitarian Innovation: The State of the Art”, *OCHA Policy and Studies Series*, 5, www.unocha.org/sites/unocha/files/Humanitarian%20Innovation%20The%20State%20of%20the%20Art_0.pdf

⁷ Daniel P. Scarnecchia *et al.*, “A Rights-Based Approach to Information in Humanitarian Assistance,” *PLOS Currents Disasters*, September 20, 2017, <https://doi.org/10.1371/currents.dis.dd709e442c659e97e2583e0a9986b668>

HUMANITARIAN ALTERNATIVES

phenomena of “voluntary technical organisations”, or VTOs, as a defining characteristic of many mainstream humanitarian uses of ICTs in the assessment phase, crowd mapping and crowd sourcing in particular⁸.

While VTOs play an increasingly prominent role in many responses, particularly rapid onset disasters, the development of these volunteer coordination networks has occurred more intentionally and quickly than traditional coordination structures have adapted to the use of these technologies. For example, the provision of Wi-Fi to displaced populations in camp settings has yet to be officially assigned to either the Emergency Telecommunications Cluster (ETC) or the Camp Coordination and Camp Management Cluster (CCCM) as a formal responsibility, according to an analysis of available public documents.

Similarly, there is no common remote sensing and mapping cluster designated for coordinating the imagery collection, analysis and processing work that is increasingly a core part of situational awareness and decision support activities. There is also no standing cluster publicly responsible for the use of biometrics as part of beneficiary registration activities. What often does exist are “work-around” coordination mechanisms specific to discreet, one-off responses in country and/or regional contexts.

In contrast, one example of a body robustly addressing the need for the role of coordinated knowledge management in a critical HIA domain is the Cash Learning Partnership (CALP). CALP has developed an extensive set of resources, guiding principles, and tools across the disaster response cycle that take into account the central and increasingly dominant role of ICTs in cash delivery.⁹ The key lesson from CALP that can potentially be replicated in other contexts is focusing on the delivery act, not a specific tech itself, as the framework for guiding knowledge development related to ICTs in an operational context. However, there are extremely few examples to date of effective knowledge management of ICTs within current coordination structures.

It must be noted that there are real and important concerns about whether the current UN cluster system is effective and should be continued in its current form.¹⁰ However, those perennial debates are not a reason to delay either assigning HIAs to currently extant clusters and/or creating new clusters specifically focused on certain HIAs themselves. Until this gap is addressed, knowledge creation will likely continue to occur outside agreed structures on an ad hoc basis and to the detriment of efforts to establish comprehensive best practices.

Data preparedness: an urgent knowledge management requirement

One needs to look no further than the issue of what Raymond and al Achkar call “Data Preparedness” to find a concrete example of where improved capacities and capabilities for humanitarian knowledge could have immediate and tangible impact towards improving current practice. They identify “data preparedness” as a core competency of HIA knowledge management, defining the concept as the “ability of organisations to responsibly and effectively

⁸ See, for example: “Humanitarian OpenStreetMap Team,” accessed May 22, 2018, www.hotosm.org/; “CrisisMappers,” accessed May 22, 2018, <http://crisismappers.net/>.

⁹ “Tools for Implementation – CaLP,” accessed May 22, 2018, www.cashlearning.org

¹⁰ Nezh Altay and Melissa Labonte, “Challenges in Humanitarian Information Management and Exchange: Evidence from Haiti”, *Disasters* 38, no. s1 (April 2014): S50–S72, <https://doi.org/10.1111/disa.12052> ; Vanessa Humphries, “Improving Humanitarian Coordination: Common Challenges and Lessons Learned from the Cluster Approach | The Journal of Humanitarian Assistance,” *The Journal of Humanitarian Assistance*, April 30, 2013, <http://sites.tufts.edu/jha/archives/1976>

HUMANITARIAN ALTERNATIVES

deploy data tools before disaster strikes¹¹”. At present, ICT and data triage and deployment plans are often made in the context of a disaster having already taken place, rather than as a core competency of effective disaster preparedness. This leads to a phenomenon termed “humanitarian experimentation” or “disaster experimentation¹²”. In these cases, practitioners attempt to determine the value of a specific data set, data collection method or platform, and/or data processing technique in the context of a live disaster response operation.

In addition to the moral and legal hazard of potentially violating the rights of disaster affected individuals and communities, this practice also undermines efforts to capture humanitarian knowledge related to both best and negative practices for employing these technologies. It also can create a search for responder-centric solutions that become detached from a direct relationship to meeting the needs of an affected population, which is the heart of the humanitarian imperative.

This ad hoc, disaster experimentation approach with ICTs is also leading to secondary, “big data disasters.” These unintended consequences of a lack of data preparedness can include a “deluge”, when responders do not have the capacity to digest large streams of data, and data damage, when an absence of regulatory and legal guidelines and familiarity cause violations of local law, international guidelines and human rights¹³.

Data preparedness, if undertaken as a core HIA-related knowledge creation and curation activity by the humanitarian sector, is also a crucial component of developing minimum technical standards. At present, there are no agreed minimum technical standards for many commonly undertaken HIAs.

Critical Incidents: The Need for Evidence of Negative Experience

The development of the necessary areas of humanitarian knowledge around HIAs has been limited so far by the lack of well documented case studies of critical incidents related to the use of ICTs in humanitarian operations as:

“breaches of platforms and networks, weaponisation of humanitarian data to aid attacks on vulnerable populations, and exploitation of humanitarian systems against responders and beneficiaries¹⁴.”

At present, there is no established mechanism in the humanitarian community for reporting evidence of potential risk from an activity, platform, or application, let alone documenting when harm occurs. In a recent example, a competitor of a company that built a beneficiary data management platform, Red Rose, was hacked by a competing firm that sought to expose perceived vulnerabilities in the platform’s cybersecurity measures¹⁵. Other than approaching agencies that used Red Rose, there existed no mechanism for capturing this purported

¹¹ Nathaniel Raymond and Ziad Al-Achkar, “Data Preparedness: Connecting Data, Decision-Making, and Humanitarian Response”, *Standards and Ethics* (Cambridge, MA: Harvard Humanitarian Initiative, 2016), 3, <https://hhi.harvard.edu/publications/data-preparedness-connecting-data-decision-making-and-humanitarian-response>

¹² Kristin Bergtora Sandvik, Katja Lindskov Jacobsen, and Sean Martin McDonald, “Do No Harm: A Taxonomy of the Challenges of Humanitarian Experimentation”, *International Review of the Red Cross*, October 2017, 13, <https://doi.org/10/gddxwv>

¹³ Nathaniel Raymond et Ziad Al-Achkar, “Data Preparedness...”, art. cit., 4.

¹⁴ Nathaniel A. Raymond, Daniel P. Scarnecchia, and Stuart R. Campo, “Humanitarian Data Breaches: The Real Scandal Is Our Collective Inaction,” *IRIN*, December 8, 2017, <https://www.irinnews.org/opinion/2017/12/08/humanitarian-data-breaches-real-scandal-our-collective-inaction>

¹⁵ Ben Parker, “Security Lapses at Aid Agency Leave Beneficiary Data at Risk,” *IRIN*, November 27, 2017, <https://www.irinnews.org/investigations/2017/11/27/security-lapses-aid-agency-leave-beneficiary-data-risk>

HUMANITARIAN ALTERNATIVES

vulnerability, documenting it, and ensuring that it was rectified in all relevant platforms the humanitarian community was using.

Providing a safe, ethical, independent and peer-reviewed critical incident reporting function needs to be a central function of the emerging HIA knowledge management ecosystem. While it is unclear where this function should reside within the community, OCHA and other coordination leaders have a role to play in developing a blueprint for addressing this critical gap.

Beginning the Process of Developing Minimum Technical Standards for HIAs

The humanitarian community, as previously mentioned, is now more than a decade into contending with the challenges, risks, and opportunities that the digital revolution represents for the sector; and as of this writing, not only does the field not have any minimum technical standards, it does not even have a proposed process for how it may eventually develop them in the future.

The quality, rigor, and actual application in practice of the knowledge relevant to any sub-sector of humanitarian action – whether water and sanitation, cash, shelter, or protection – can be assessed, in large part, by the creation and timely curation of minimum technical standards. By this metric, the sub-sector of HIAs utilizing ICTs and other digital platforms is still in its infancy.

Three steps need to occur with the support of donors, UN agencies, NGOs, and – most of all – local agencies and communities if the minimum technical standard gap – arguably the most crucial knowledge gap of all in this area – is to be addressed. First, there must be an effort to agree what rights affected communities have in the context of information during disaster and what ethical obligations practitioners have to realize them. The Harvard Humanitarian Initiative’s Signal Program’s Signal Code project, which the authors work on, represents an example that could provide a starting point for this effort¹⁶. Second, there must be a determination made of which sub-domains of HIAs, such as remote sensing, biometrics, etc., needs specific minimum technical standards most urgently. Third and finally, representative stakeholders from the relevant communities that are either engaged in HIAs or affected by them must be brought together in an intensive convening to begin to agree a roadmap forward.

In closing, part of the challenge is that these issues are as a political and economic as much as – or maybe even more so – than they are technological ones. Regardless, the humanitarian community should begin now to address these diverse dynamics through concerted, integrated, and unified action. The first step is to lift the veil of supposed newness from these now mainstream and commonplace tools and methods that has too long separated these “new” technologies from the traditional standards by which the field measures effective and professional humanitarian action.

¹⁶ Greenwood *et al.*, “The Signal Code: A Human Rights Approach to Information During Crisis”.

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